

## Leveraged Housing Bubbles: The lasting economic scars (an Australian perspective)

If Australia has a housing bubble<sup>1</sup>, and this bubble has been fuelled by excessive credit growth, then according to a recent research paper, *Leveraged Bubbles*<sup>2</sup> (June 2015), the economic downturn that will follow a bursting of this bubble will be much more painful than a normal business cycle recession. In this paper Jorda, et al. found that “credit fuelled asset price bubbles, especially those in housing markets after WW2, were associated with a higher likelihood of a financial crisis recession”<sup>3</sup> (those recessions where a financial crisis took place within a two year window of the recession).

As shown in table 8<sup>4</sup> below, the average cumulative percentage change in real GDP per capita is -9.96% (+/-4.27%) below its peak level of the previous business cycle after 5 years. This compares to a normal recession where real GDP per capita recovered to be +7.88 (+/-1.51%) above its previous pre-recession peak.

Table 8: LP recession/recovery path, with controls. Post-WW2 sample

Dependent variable: cumulative percentage change in real GDP per capita (100 × Δ log)						
	(1)	(2)	(3)	(4)	(5)	(6)
	Year 1	Year 2	Year 3	Year 4	Year 5	Sum
Recession	-1.50 (0.36)	-0.13 (0.70)	2.50 (1.04)	4.86 (1.80)	7.88 (1.51)	12.86 (4.44)
Equity bubble, low credit	0.40 (0.63)	-0.32 (0.85)	0.09 (1.34)	-0.05 (1.97)	-0.67 (1.62)	0.58 (4.87)
Housing bubble, low credit	-0.47 (0.72)	-2.14* (1.18)	-2.99 (1.89)	-3.62 (2.45)	-3.25 (3.37)	-11.74 (9.90)
Equity bubble, high credit	-0.91* (0.44)	-2.33** (0.95)	-2.17 (1.57)	-2.62 (2.06)	-1.41 (2.54)	-8.92 (6.81)
Housing bubble, high credit	0.62 (0.71)	-3.38** (1.48)	-6.39*** (1.98)	-8.35*** (2.81)	-9.96** (4.27)	-27.37** (12.34)
Macroeconomic controls	yes	yes	yes	yes	yes	yes
R <sup>2</sup>	0.40	0.61	0.64	0.67	0.70	0.67
Observations	84	77	76	76	68	68

Notes: Standard errors in parentheses. \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ . The dependent variable is the cumulative change in real GDP per capita from the peak of the business cycle (the start of the recession). Peaks are identified using Bry and Boschan (1971) algorithm. Bubble episodes are associated with recessions by considering the expansion over which the bubble takes place and using the subsequent peak. The bubble indicators are binned depending on whether bank lending (credit in the table) grew above (high) or below (low) the historical mean. See text.

Although the RBA has previously recognised the risks of a housing bubble associated with strong credit growth, “...large increases of housing prices, if accompanied by strong growth of credit and a relaxation of lending standards, are a potential risk for economic stability”<sup>5</sup>, it has failed to quantify the extent that such risks pose for the Australian economy.

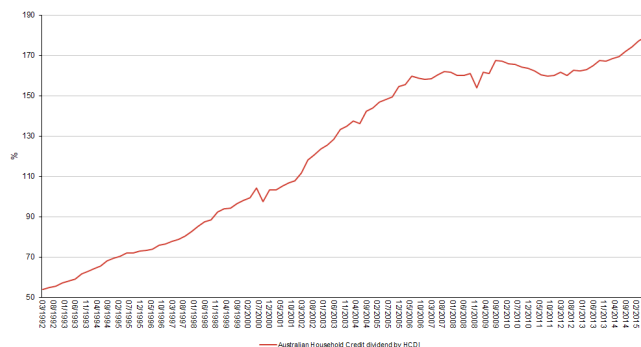
In the same context it also makes the spurious argument that “...if we deduct funds held in mortgage offset accounts and ignore investor credit, we can see that the rest of household credit has declined by about four percentage points as a share of household disposable income since early 2010.

This is consistent with a degree of deleveraging among some households, particularly when we consider that low interest rates might otherwise have encouraged a general increase in this type of credit over that period.”<sup>6</sup>

Despite the RBA's very qualified statements about household sector deleveraging, the fact remains that household credit, as a percentage of household cash disposable income, has increased by 12% from a cycle low of 160% at the end of September 2011, to 179% at the end of June 2015 (see following chart).

As to the comments about “funds held in mortgage offset accounts” and the “rate of mortgage prepayments has increased as interest rates have fallen”<sup>7</sup>, JCP research (undertaken by Craig Shepherd, our Senior Economist) has shown that it is low ‘loan to value ratio’ borrowers that have largely driven these outcomes. Such borrowers would unlikely be the marginal sellers when the housing price bubble bursts.

On the comment about “ignoring investor credit”, history has shown that speculative credit taken on by investors is the most



dangerous form of credit for asset price stability. Investors have little personal shelter utility to hold highly leveraged housing assets whose price is precipitously falling, and thus tend to be the primary participants engaged in panic selling during a market crash, thereby setting the marginal price.

Interestingly, in a recent paper, “Is the unthinkable becoming routine?”<sup>8</sup>, the BIS suggests that extended periods of low interest rates cause the build-up and collapse of economically damaging financial imbalances that when unwound leave lasting economic scars, by sapping productivity and misallocating real resources across sectors and over time. Excessively low interest rates contribute to costly financial booms and busts, resulting from too much debt, and too little long-term productive growth.

There are many people in Australia who would argue that it is different this time in Australia. Australia is a special case because: Chinese capital flows will drive Australian house prices higher for many years into the future; the AUD will fall before a financial crisis recession takes hold and will make-up for the negative economic impact of the bursting of a housing bubble; the RBA has the economic foresight and policy tools to avert a financial crisis recession; interest rates will stay low for a long time into the future because of a global savings glut caused by a lack of investment; the Federal Government will provide the necessary fiscal expansion to avert any economic crisis; there is a shortage of houses in Australia so demand will continue to drive prices higher; or that Sydney and Melbourne are international cities akin to New York and London and so their house prices should be roughly equivalent. History is littered with arguments as to why this time is different, driven mainly by the allure of short-term momentum driven gains and vested interests – “the sirens of the sea”.

Despite the above arguments for higher relative Australian house prices, the question still remains: does Australia have a housing bubble? Many commentators have tarnished their reputations calling the end of the Australian housing bubble – particularly in a generally falling interest rate market over the last 30 years. Therefore, my answers to this question is a qualified and conditional yes!

If we assume that the RBA official cash rate stays at 2% forever, then the Australian median house price is only currently around fair value. This is hardly a bubble, although equivalent figures for Sydney and Melbourne look more extreme (over-priced by 23% and 24% respectively, based on gross rental yields of 2.7% and 2.8%; and median house prices of \$881,971 and \$669,000).

This large discrepancy between the pricing of the median Australian house price, and Sydney and Melbourne house prices is something that the RBA and other commentators have referred to on a number of occasions. The argument seems to run something like: “There is no bubble in Australian house prices nationally, but there may be a bubble in Sydney and Melbourne house prices”. The implication is that this is somehow unusual, when in fact empirical evidence shows that housing bubbles are

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often characterised by pockets of extreme price movements which are driven by capital flows between regional markets that have strong financial integration. In a recent research paper, *Financial Integration, Housing, and Economic Volatility* (April 2014) the authors (Loutskina and Strahan) find that:

“With financial integration, credit can flow into regions with collateral (housing) booms from areas without (or with smaller) booms. Hence, booming regions experience stronger increases in growth (fuelled by credit), while non-booming regions export capital, which slows down their growth. Thus, financial integration ought to amplify the effects of housing shocks on real economic activity and lead to divergence in economic growth across areas.”<sup>9</sup>

During the 2000s, housing prices not only increased, but they also became more volatile and less correlated across local markets. The housing boom was concentrated in Sun Belt areas such as Arizona, California, Florida, and Nevada.”<sup>10</sup>

With marginally negative short-term real interest rates in Australia, and with the Fed funds rate expected to rise over the next five years to about 3%, it seems unrealistic that the RBA can keep rates this low forever. An increase in the RBA official cash rate to a more normal level of 3.5% (i.e. slightly below the long-term spread to the US Fed funds rate of about 65bps); an increase in inflation to 2.5% (i.e. the mid-point of the RBA's target range and close to its average since 30/09/01 of 2.62%); and a decrease in construction costs relative to inflation consistent with lower house prices<sup>11</sup>; would, *ceteris paribus*, reduce the fundamental value of the median house from \$614,784 to \$441,493 (a fall of slightly more than 30%), making the median house price over-priced by 31% (Sydney and Melbourne would both be over-priced by about 47%). This amount, by any historic measure, would certainly be considered an asset price bubble. A fall in prices to equilibrium (where price equals fundamental value) would see the median house price fall to levels last seen in December 2007.

Like all models, JCP's Fundamental Median Australian House Value Model is dependent on the assumptions comprising the model. Although the assumptions we have used seem reasonable to us, the reader of this note may see things differently.

What is indisputable from the modelling process, is the high degree of valuation sensitivity to relatively small increases in the RBA's official cash rate. Australia's variable interest rate mortgage system has been an economic blessing over the last 30 years of lower trending interest rates (from 15.7% in June 1985 to 2.0% in June 2015). This has helped push the median house price up from \$71,639 to \$641,457 (an increase of 9.0x versus an increase in Australia's CPI of only 2.8x). Also over the last 30 years the household sector has increased its debt from \$56.1b to \$1,614.3b (an increase of 28.8x versus an increase in Australia's household cash disposable income of only 6.0x).

However, in a world that will probably extricate itself from financial repression and very low interest rates over the next five years, our variable interest rate mortgage system could well become a curse, especially when compared with the largely fixed rate (put option) based system in the US. Over the next few years the RBA may well find itself caught in the 'central banker's dilemma': trash the AUD and risk foreign capital outflows (Australia's foreign debt liabilities as a percentage of GDP have increased from 55% to 115% over the last 30 years); or increase interest rates and plunge the Australian economy into recession.

Many commentators have been 'slain on the altar' of the 'Australian Housing Church'. Perhaps my carcass will be the next to emerge from this debate. Whatever the outcome, clearly the stakes are high, and the implications for the Australian

economy and financial system are stark for all to see. Will the 'lucky country' get lucky again? Perhaps, but just maybe our luck has run out!

The Loutskina and Strahan paper referred to above concludes with the following observation:

“If shocks originate from rational assessments about local fundamentals, then financial integration unambiguously improves efficiency by allowing capital to flow toward its highest return. Thus, integration would improve investment and lead to higher long-run growth. If, however, demand shocks originate from irrational exuberance about, say, an unsustainable path for future housing prices, then integration could foster over investment, bubbles, and crashes.”<sup>12</sup>

In *The General Theory of Employment, Interest, and Money*, Keynes explained how booms are created when “investments which will in fact yield, say, 2% [real] in conditions of full employment are made in the expectation of a yield of, say, 6% [real] and are valued accordingly.” In a recession, the problem is flipped. Investments that would yield 2% are “expected to yield less than nothing.” The result is a self-fulfilling prophecy, in which widespread unemployment does indeed drive the returns of those investments below zero. “We reach a condition where there is a shortage of houses,” Keynes wrote, “but where nevertheless no one can afford to live in the houses that there are.”

Finally some words of caution from the pre-eminent economist, Rudiger Dornbusche, “Crisis takes a much longer time coming than you think, and then it happens much faster than you would have thought.”

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<sup>1</sup> Reserve Bank governor Glenn Stevens is so concerned about Sydney's booming house prices that he took the unusual step of describing pockets of the market as “crazy”. “Yes, I am concerned about Sydney. I think some of what's happening is crazy.” RBA governor Glenn Stevens. Mr Stevens said he found the steep rises in property prices in Australia's biggest city “acutely concerning for a host of reasons, many of which are not to do with monetary policy”. <http://www.smh.com.au/business/the-economy/sydney-house-price-rise-crazy-rbas-glenn-stevens-says-20150610-gnhkz.html>

In one of the strongest official warnings about the dangers of surging property prices, Mr Fraser said recent growth in popularity of renovation shows is a sign that “something is amiss”. “When you look at the housing price bubble evidence, it's unequivocally the case in Sydney,” Mr Fraser told a Senate estimates committee hearing on Monday. He said it was also “certainly the case in higher priced areas in Melbourne” while elsewhere in Australia “the evidence is less compelling”. <http://www.afr.com/real-estate/residential/sydney-unequivocally-in-housing-bubble-says-john-fraser-20150601-ghdv05>

<sup>2</sup> Oscar Jorda, Moritz Schularick, Alan M. Taylor, *Leveraged Bubbles*, (June 2015).

<sup>3</sup> *Ibid.*, p. 20.

<sup>4</sup> *Ibid.*, p. 27.

<sup>5</sup> Christopher Kent [Assistant Governor (Economic) Reserve Bank of Australia], *Monetary Policy Transmission – What's Known and What's Changed*, Public Lecture at the Australian National University, Canberra (15 June 2015).

<sup>6</sup> *Ibid.*

<sup>7</sup> *Ibid.*

<sup>8</sup> Bank of International Settlements, *Is the unthinkable becoming routine?*, Annual Report 2015 (28 June 2015).

<sup>9</sup> Loutskina, Elena, and Philip E Strahan, *Financial Integration, Housing and Economic Volatility*, *Journal of Financial Economics* 115(1) (2015), p. 1.

<sup>10</sup> *Ibid.*, p. 31.

<sup>11</sup> Kent, op. cit., “There is little evidence of labour supply constraints outside a few trades and professional roles. However, inflation of building material prices has risen and the Bank's liaison suggests that some builders have increased margins over the past year or so. Consistent with this, inflation in new dwelling costs has risen to be almost 2 percentage points above its average over the inflation-targeting period; although, it is still below that seen when dwelling construction was strong in the early 2000s.”

<sup>12</sup> *Ibid.*, p. 32.



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